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B-cell epitopes within swine flu virus T-cell epitopes

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To the editor

Sir, swine flu is a problematic emerging viral infection. Vaccine is believed to be the best prevention method[1]. Nevertheless, effective vaccine is still not available, hence, ongoing research for new vaccine for swine flu is useful. The presently available vaccine was firstly developed in urgent situation to fight "pandemic swine flu"[1] and there is no large trial to support its effectiveness. The remained questions are also on safety and cost effective. How to further improve is the interesting question. In vaccinology, epitope finding is the basic step for development of the vaccine. Routinely, the T-cell epitope is usually sought in order to be the basic data for development of vaccine to combat virus infection. However, the role of antibody, humoral immunity, should not be forgotten. According to the report by Greenbaum *et al*., it was reported that "only 31% (8/26) of B-cell epitopes present in recently circulating H1N1 strains are conserved in the S-OIV, with only 17% (1/6) conserved in the hemagglutinin and neuraminidase surface protein[2]" and "69% (54/78) of the epitopes recognized by CD8(+) T cells are completely invariant[2]."Greenbaum et al concluded that a new vaccine based on the specific S-OIV hemagglutinin and neuraminidase proteinswith special focus on antibody mediated mechanism would be the hope for effective prevention[2]. For swine flu, the T cell epitopes have been well described and those epitopes are called "swine-origin influenza A H1N1 virus cytotoxic T lymphocyte epitope peptides". Those T cell epitopes are accepted for cellular immunity correspondence. But, it is still the myth about the humoral immunity correspondence. Assessment on B-cell epitope property can lead to the answer and this can be done by standard bioinformatics investigation. Here, the recorded sequences of swine flu T cell epitope peptides in protein database, PubMed are used as template and standard bioinformatics assessment for B cell epitope property using standard referencing methods[3,4] was done. From assessment of 9 available sequences (from 9 to 275 aa), the best B cell epitopes property was "65 RNV KET AQT YGV GLN T" from accession: 3QQ4_A GI: 365813033 (score=0.93). The detected part of sequence is the part with the most immunogenicity, both T cell and B cell immunity correspondence. It can be useful basic information for further swine flu vaccine development.

Conflict of interest statement

We declare that we have no conflict of interest.

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